

Claims

What is claimed is:

1. An electrical load control device for use with a wallplate having an opening that has standard toggle-type dimensions, the electrical load control device comprising:

an actuator mounting frame comprising a substantially rectangular platform, the platform adapted for receipt within the switch opening of a standard toggle-type wallplate;

a dimmer actuator that extends in a direction that is substantially parallel to a side of the platform; and

a pushbutton actuator for a switch comprising a user-engageable portion that extends adjacent the dimmer actuator in a direction that is substantially parallel to the first side of the platform, the user-engageable portion defining a surface having opposite end portions that is presented to a user of the device, at least the end portions of the surface of the user-engageable portion being defined by a portion of a substantially prolate spheroid to provide for minimization of undesirable coupling between the adjacent actuators during actuation by a user.

2. The electrical load control device according to claim 1, wherein the dimmer actuator comprises a pivotably supported rocker dimmer actuator, the rocker dimmer actuator having a portion defining a curved surface that is presented to a user of the device.

3. The electrical load control device according to claim 1, wherein the platform comprises a pair of opposing sides and a pair of opposing ends and wherein the sides are relatively long with respect to the ends.

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4. The electrical load control device according to claim 2, wherein the rocker dimmer actuator surface has opposite end portions and is substantially concave such that the end portions extend to a distance from the mounting frame that is greater than that for a middle portion of the rocker dimmer actuator surface.

5. The electrical load control device according to claim 1 wherein the dimmer actuator comprises a linear slide actuator received in an elongated slot in the platform.

6. The electrical load control device according to claim 3 wherein the platform defines a substantially planar actuator presentation surface that extends between the sides and the ends, the electrical load device further comprising an airgap switch actuator extending through the platform and supported for translation in a direction that is substantially perpendicular to the actuator presentation surface of the platform.

7. The electrical load control device according to claim 6 further comprising a pair of electrical contacts that are supported on switch leaf arms for normal contact with one another and wherein the airgap switch actuator comprises an elongated shaft and a wedge connected to the shaft, the wedge having cam surfaces that angle outwardly from the shaft, the cam surfaces contacting and separating the switch leaf arms thereby separating the electrical contacts during the translation of the airgap switch actuator.

8. The electrical load control device according to claim 1, wherein the platform defines a substantially planar actuator presentation surface from which a portion of the pushbutton actuator protrudes, and wherein the platform includes at least one opening in light communication with a light source, the at least one opening extending to the actuator presentation surface for presentation of light from the light source to a user of the device.

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9. The electrical load control device according to claim 8 wherein the at least one opening includes a plurality of spaced openings.

10. The electrical load control device according to claim 9, wherein the plurality of spaced openings are arranged in an equally spaced linear array of openings.

11. The electrical load control device according to claim 2, wherein the user-engageable portion of the pushbutton actuator includes a middle portion that extends to a distance from the mounting frame that is greater than the distance which any portion of the rocker dimmer actuator extends from the mounting frame.

12. The electrical load control device according to claim 1, wherein the surface of the user-engageable portion of the pushbutton actuator presents a color that contrasts with a color presented by the dimmer actuator, and wherein the color of the pushbutton actuator further contrasts with a color presented by at least a portion of the platform, the contrasting color of the pushbutton actuator visually targeting the pushbutton actuator thereby reducing the likelihood of undesirable coupling between the actuation of the pushbutton actuator and the actuation of the dimmer actuator.

13. The electrical load control device according to claim 1, wherein the surface of the user-engageable portion of the pushbutton actuator has a surface texture that is distinct from a surface texture of the dimmer actuator, and wherein the surface texture of the pushbutton actuator is distinct from a surface texture of at least a portion of the platform, the distinct surface texture of the pushbutton actuator visually targeting the pushbutton actuator thereby reducing the likelihood of undesirable coupling between the actuation of the pushbutton actuator and the actuation of the dimmer actuator.

14. The electrical load control device according to claim 1, wherein the pushbutton actuator further comprises a body portion having a first end and an opposite second end, the user-engageable portion of the pushbutton actuator

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connected to the first end of the body portion of the pushbutton actuator, and wherein the body portion of the pushbutton actuator has a cross section that is defined by a modified ellipse obtained by removing a middle portion of an ellipse and uniting remaining end portions of the ellipse to one another.

15. The electrical load control device according to claim 1, wherein the pushbutton actuator further comprises a body portion having a cross section and opposite first and second ends, the user-engageable portion of the pushbutton actuator connected to the first end of the body portion of the pushbutton actuator, and wherein the surface of the user-engageable portion of the pushbutton actuator is defined by a modified surface of revolution of the body portion cross section, the surface of revolution modified by elongating a middle portion of the user-engageable portion of the pushbutton actuator such that a distance that the middle portion of the user-engageable portion extends from the first end of the body portion of the user-engageable portion is increased.

16. The electrical load control device according to claim 1, wherein the pushbutton actuator further comprises a body portion having a cross section and opposite first and second ends, the user-engageable portion of the pushbutton actuator connected to the first end of the body portion of the pushbutton actuator, and wherein the surface of the user-engageable portion of the pushbutton actuator is defined by a modified surface of revolution of the body portion cross section, the surface of revolution modified by reducing the distance that at least a portion of each of opposite end portions of the user-engageable portion extends from the first end of the body portion of the pushbutton actuator.

17. The electrical load control device according to claim 15, wherein the surface of revolution of the body portion cross section that defines the surface of the user-engageable portion has been further modified by laterally widening a portion of the user-engageable portion so as not to present a relatively sharp edge to a user of the actuator.

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18. The electrical load control device according to claim 1, wherein a portion of the user-engageable portion of the pushbutton actuator is transmissive to IR radiation to provide an IR window for passage of an IR signal through the user-engageable portion of the pushbutton actuator.

19. The electrical load control device according to claim 1, wherein the platform of the actuator mounting frame includes relatively long sides and relatively short ends and wherein the sides have a length that is less than 0.925 inches and the ends have a length that is less than 0.401 inches.

20. A dimmer switch adapted for use with a wallplate having a rectangular opening that has relatively long sides and relatively short ends, the dimmer switch comprising:

an actuator mounting frame comprising a substantially rectangular platform, the platform having relatively long sides and relatively short ends, the sides and ends dimensioned for receipt within the wallplate rectangular opening;

a dimmer actuator extending in a direction that is substantially parallel with respect to the platform sides; and

a pushbutton actuator for a switch, the pushbutton actuator comprising an elongated user-engageable portion that extends adjacent the dimmer actuator in a direction that is substantially parallel with respect to the platform sides, the user-engageable portion of the pushbutton actuator defining a surface having opposite end portions, at least the end portions of surface of the user-engageable portion of the pushbutton actuator being defined by a portion of a substantially prolate spheroid to provide for minimization of undesirable coupling between the actuation of the pushbutton actuator and the actuation of the dimmer acuator.

21. The dimmer switch according to claim 20, wherein the dimmer actuator comprises a pivotably supported rocker dimmer actuator, the rocker dimmer

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actuator having a portion defining a curved surface that is presented to a user of the switch.

22. The dimmer switch according to claim 21, wherein the rocker dimmer actuator surface has opposite end portions and is substantially concave such that the end portions extend to a distance from the mounting frame that is greater than that for a middle portion of the rocker dimmer actuator surface.

23. The dimmer switch according to claim 20, wherein the dimmer actuator comprises a linear slide actuator received in an elongated slot in the platform.

24. The dimmer switch according to claim 20, wherein the platform defines a substantially planar actuator presentation surface that extends between the sides and ends of the platform, the dimmer switch further comprising an airgap switch actuator extending through the platform and supported for translation in a direction that is substantially perpendicular to the actuator presentation surface of the platform.

25. The dimmer switch according to claim 24, further comprising a pair of electrical contacts that are supported on switch leaf arms for normal contact with one another and wherein the airgap switch actuator comprises an elongated shaft and a wedge connected to the shaft, the wedge having cam surfaces that angle outwardly from the shaft, the cam surfaces contacting and separating the switch leaf arms thereby separating the electrical contacts during the translation of the airgap switch actuator.

26. The dimmer switch according to claim 20, wherein the platform defines a substantially planar actuator presentation surface from which a portion of the pushbutton actuator protrudes, and wherein the platform includes at least one opening in light communication with a light source, the at least one opening extending to the actuator presentation surface for presentation of light from the light source to a user of the switch.

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27. The dimmer switch according to claim 26, wherein the at least one opening includes a plurality of openings that are arranged in a linear array of equally spaced openings.

28. The dimmer switch according to claim 20, wherein a portion of the user-engageable portion of the pushbutton actuator is transmissive to IR radiation to provide an IR window for passage of an IR signal through the user-engageable portion of the pushbutton actuator.

29. The dimmer switch according to claim 20, wherein the sides of the platform have a length that is less than 0.925 inches and the ends have a length that is less than 0.401 inches.

30. An electrical load control device comprising:
an actuator mounting frame;
a yoke having front and rear sides and an opening in which the mounting frame is received;
a pushbutton switch actuator for actuation of a switch through inward translation of the pushbutton with respect to the mounting frame; and
a clip for removably securing the pushbutton switch actuator, the clip supported adjacent the rear side of the yoke for translation with respect to the yoke that is substantially perpendicular to the translation of the pushbutton actuator, the clip translating between a first locked position in which the clip engages the pushbutton actuator to secure the actuator and a second unlocked position in which the clip is disengaged from the pushbutton actuator to provide for removal of the pushbutton switch actuator, a portion of the clip accessible through the yoke opening from the front side of the yoke.

31. The electrical load control device according to claim 30 wherein the clip comprises at least one elongated prong that is received within an opening in the pushbutton switch actuator.

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32. A dimmer switch for use with a wallplate having an opening that has standard toggle-type dimensions, the dimmer switch comprising:

a pushbutton actuator for actuating a switch, the pushbutton actuator comprising a user-engageable portion defining a surface that is presented to a user of the switch;

a dimmer actuator;

an independent actuator for an airgap switch;

an actuator mounting member having a surface defining an actuator presentation area, the actuator presentation area adapted for receipt by the wallplate opening to present the actuator presentation area to a user of the switch, at least a portion of each of the pushbutton actuator, dimmer actuator and airgap switch actuator contained within actuator presentation area to provide accessibility for a user of the switch to the actuators; and

at least one opening in the actuator mounting member extending to the surface of the actuator mounting member, the opening providing for light communication between the actuator mounting surface and a source of light to provide a lighted display to a user of the switch.

33. The dimmer switch according to claim 32, wherein the dimmer actuator comprises a pivotably supported rocker dimmer actuator.

34. The dimmer switch according to claim 32, wherein the at least one opening comprises a plurality of openings arranged in a linear array of openings to provide for an indication of dimmer level to a user of the dimmer switch.

35. The dimmer switch according to claim 32, wherein the actuator mounting member comprises a rectangular platform having relatively long sides and relatively short ends.

36. The dimmer switch according to claim 32, wherein the actuator presentation area has a length that is less than 0.925 inches and a width that is less than 0.401 inches.

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37. The dimmer switch according to claim 32 wherein the surface of the user-engageable portion of the pushbutton actuator is defined by a portion of a substantially prolate spheroid.

38. The dimmer switch according to claim 32 wherein a portion of the user-engageable portion of the pushbutton actuator is transmissive to IR radiation to provide an IR window for passage of an IR signal through the user-engageable portion of the pushbutton actuator.

39. An electrical load control device for use with a wallplate having an opening that has standard toggle-type dimensions, the electrical load control device comprising:

an actuator mounting frame comprising a substantially rectangular platform, the platform adapted for receipt within the switch opening of a standard toggle-type wallplate;

a dimmer actuator that extends in a direction that is substantially parallel to a side of the platform; and

a pushbutton actuator for a switch comprising a user-engageable portion that extends adjacent the dimmer actuator in a direction that is substantially parallel to the first side of the platform, the user-engageable portion defining a surface having opposite end portions that is presented to a user of the device, at least the end portions of the surface of the user-engageable portion being defined by a substantially hemi-ellipsoidal surface to provide for minimization of undesirable coupling between the adjacent actuators during actuation by a user.

40. A dimmer switch adapted for use with a wallplate having a rectangular opening that has relatively long sides and relatively short ends, the dimmer switch comprising:

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an actuator mounting frame comprising a substantially rectangular platform, the platform having relatively long sides and relatively short ends, the sides and ends dimensioned for receipt within the wallplate rectangular opening;

a dimmer actuator extending in a direction that is substantially parallel with respect to the platform sides; and

a pushbutton actuator for a switch, the pushbutton actuator comprising an elongated user-engageable portion that extends adjacent the dimmer actuator in a direction that is substantially parallel with respect to the platform sides, the user-engageable portion of the pushbutton actuator defining a surface having opposite end portions, at least the end portions of surface of the user-engageable portion of the pushbutton actuator being defined by a substantially hemi-ellipsoidal surface to provide for minimization of undesirable coupling between the actuation of the pushbutton actuator and the actuation of the dimmer acutator.